The River Mile Framework

Kindergarten -12th Grades

TRM Connections to Washington State Revised Science Standards

Working Model 1/28/2010

The River Mile K-12 Framework
Introduction

NPS The River Mile Program Goals
Our objective is to provide teachers and students with a real world laboratory where they will work with park staff and scientists to collect, analyze and interpret ecosystem data throughout the Lake Roosevelt Watershed.

Goals Include:
- Appreciation for the natural world and ecosystem processes
- Instill critical thinking skills and ability related to human actions and the environment
- Stewardship: build ownership in their National Park
- Develop a positive relationship between the park and the community
- Have the community become involved in the management of the park
- Build a connection between the school curriculum and the resources
- Provide resources and training in student inquiry

NPS Companion Materials & Workshops Available to Teachers & Students
- ☐ Inquiry Field Investigations
- ☐ TRM Stewardship: 8 Lessons and companion power point presentation
- ☐ Adopt a Mile Program
- ☐ Ranger led TRM site visit: Sit Spot Observation, Transects & Plots
- ☐ Inventory and Monitoring Program
- ☐ Nature Mapping 101 and 201
- ☐ Water Quality Testing protocols A & B
- ☐ GPS Mapping
- ☐ Student Science Symposium
- ☐ Quarterly Webinar Meetings

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TRM Framework Purpose:

The River Mile Framework is not a curriculum, unit or individual lesson plans. It is a model of suggested connections between the Washington State Science Standards and ideas for student inquiry using the Columbia River Watershed as an outdoor hands-on learning experience. TRM Framework is designed to assist entire faculties at a school or teachers at multiple grade levels in organizing grade level specific TRM site visits. The goal is for students to return to TRM site year after year, K-12, and each year inquire into different aspects of the complex ecosystem. TRM Framework is called a working model because it suggests many more instructional connections than can be accomplished in one or two site visits per year. Teachers are encouraged to work together and decide which scientific emphasis is best for their grade while considering a K-12 vertical alignment that supports a sustainable program and unique emphasis at each grade.

TRM Framework Application Workshops are available and held at your school site with all interested faculty to customize the River Mile Framework to your school's curriculum and provide sustainability support follow-up after the fall or spring site visits.

TRM Framework: Working Model Contents

- ☐ Grade level EALRs K-1, 2-3, 4-5, 6-8, & 9-12 with
  - TRM instructional connection descriptions
  - TRM Essential Question
  - Science Inquiry Guiding questions, and
  - A list of associated FOSS kits or teacher developed unit titles
- ☐ K-5 TRM Sample Vertical Articulation of Science EALRS 1-4
- ☐ 6-8 TRM Sample Vertical Articulation of Science EALRS 1-4
- ☐ 9-12 TRM Sample Vertical Articulation of Science EALRS 1-4

How to Use TRM Framework:

Ideas for Individual Teachers:

1. Read TRM Framework connections to the science ELARs for your grade band.

2. Consider how you can best use TRM outdoor learning experience to support student understanding of science content, investigation, and inquiry.

3. Identify a few key learning opportunities that connect your classroom science instruction to TRM field investigations.

4. Determine the best date range for your fall and spring TRM site visits

5. Plan and implement classroom instruction to prepare students and maximixe the two site visits for data collection, comparison and contrast of seasonal changes and planning student inquiry field investigations.

Ideas for Multiple Grades or School-wide Participation

6. If possible, plan with other teachers to create a vertical articulation of TRM framework that aligns with the school science curriculum. The goal is for students to return to TRM site year after year, K-12, and each year inquire into different aspects of this complex ecosystem.

7. Select TRM field experiences best suited for each participating grade level. TRM sample vertical alignments are provided as models only, and work best when modified by participating faculty.

8. Look for local outdoor learning areas (e.g., a school garden or natural preserve within walking distance) to support student experiential learning before, after, and in addition toTRM site visits.

9. TRM Framework is in a pilot phase, so modify these documents to best fit your school curriculum. Please share any ideas, additions, challenges and successes. Your feedback is important and will be used to enhance the next edition.

10. Use the blank vertical articulation template provided to develop your personalized team or school wide model.